

What Is Claimed Is:

1. A subassembly of an internal combustion engine, comprising:
  - a mating body; and
  - a tribologically stressed component having a surface area provided with a coating and that in operation, moves in relation to the mating body and is thereby tribologically stressed, wherein the coating is an at least mostly inorganic hard material coating.
2. The subassembly as recited in Claim 1, wherein a surface area of the mating body and the surface area of the tribologically stressed component are in frictional contact during operation.
3. The subassembly as recited in Claim 1, wherein a surface of the mating body is provided with another at least mostly inorganic hard material coating that has a same structure and a same composition as the at least mostly inorganic hard material coating on the surface area of the tribologically stressed component.
4. The subassembly as recited in Claim 1, wherein a solid-solid contact occurs between a surface area of the mating body and the surface area of the tribologically stressed component during operation.
5. The subassembly as recited in Claim 4, wherein the solid-solid contact occurs without lubrication.
6. The subassembly as recited in Claim 3, wherein at least one of the at least mostly inorganic hard material coating on the tribologically stressed component and the other at least mostly inorganic hard material coating on the mating body includes several sublayers.
7. The subassembly as recited in Claim 3, wherein the at least one of the at least mostly inorganic hard material coating and the other at least mostly inorganic hard material coating includes at least one of CrN, TiN, ZrN, VN, NbN, TiAlN, and CrAlN, to form a multiple layer.

8. The subassembly as recited in Claim 7, wherein the multiple layer includes a layer sequence corresponding to one of TiN/VN and TiN/NbN.
9. The subassembly as recited in Claim 3, wherein at least one of the at least mostly inorganic hard material coating and the other at least mostly inorganic hard material coating includes one of a carbonitridic layer, a nitridic layer, an oxinitridic layer, and an oxidic layer.
10. The subassembly as recited in Claim 9, wherein the at least one of the at least mostly inorganic hard material coating and the other at least mostly inorganic hard material coating is produced by one of a PVD operation and a PECVD operation.
11. The subassembly as recited in Claim 3, wherein at least one of the at least mostly inorganic hard material coating and the other at least mostly inorganic hard material coating includes a nanostructured layer.
12. The subassembly as recited in Claim 11, wherein the nanostructured layer includes nanocrystalline TiN embedded in a matrix of amorphous silicon nitride.
13. The subassembly as recited in Claim 3, wherein at least one of the at least mostly inorganic hard material coating and the other at least mostly inorganic hard material coating has a thickness of 0.5  $\mu\text{m}$  to 5  $\mu\text{m}$ .
14. The subassembly as recited in Claim 3, wherein at least one of the at least mostly inorganic hard material coating and the other at least mostly inorganic hard material coating has a thickness of 1  $\mu\text{m}$  to 3  $\mu\text{m}$ .
15. The subassembly as recited in Claim 1, wherein one of the tribologically stressed component and the mating body includes one of an intake valve, a sealing seat, a guide area of an injection needle, and a seat area of the injection needle of one of an injection system and a fuel injector.

16. A method of using a subassembly of an internal combustion engine that includes a mating body and a tribologically stressed component having a surface area provided with a coating and that in operation, moves in relation to the mating body and is thereby tribologically stressed, wherein the coating is an at least mostly inorganic hard material coating, the method comprising:

using the internal combustion engine operated with one of a dry gas such as natural gas and hydrogen as a fuel or under at least one of oil-free conditions and water-free combustion conditions.

17. A gas engine, comprising:

a subassembly including a mating body; and

a tribologically stressed component having a surface area provided with a coating and that in operation, moves in relation to the mating body and is thereby tribologically stressed, wherein the coating is an at least mostly inorganic hard material coating.

18. The gas engine as recited in Claim 17, wherein the gas engine includes one of a natural gas engine and a hydrogen engine.